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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/941,537	08/29/2001	Jong Chen	67,200-477	4317
7590 04/06/2004			EXAMINER	
TUNG & ASSOCIATES 838 W.Long Lake Road, Suite 120 Bloomfield Hills, MI 48302			ART UNIT PAPER NUMBER	

DATE MAILED: 04/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Advisory Action

Application No.

09/941,537

Applicant(s)

CHEN ET AL.

Examiner

John Ruggles

Art Unit

1756

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 12-15-03 and 2-11-04 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

PERIOD FOR REPLY [check either a) or b)]

- a) ☐ The period for reply expires _____ months from the mailing date of the final rejection.
- b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection. ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1. ☒ A Notice of Appeal was filed on 15 December 2003. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.
2. ☒ The proposed amendment(s) will not be entered because:
- (a) ☒ they raise new issues that would require further consideration and/or search (see NOTE below);
- (b) ☒ they raise the issue of new matter (see Note below);
- (c) ☐ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
- (d) ☐ they present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: See Continuation Sheet.

3. ☐ Applicant's reply has overcome the following rejection(s): _____.
4. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
5. ☒ The a) ☐ affidavit, b) ☐ exhibit, or c) ☒ request for reconsideration has been considered but does NOT place the application in condition for allowance because: See Continuation Sheet.
6. ☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.
7. ☒ For purposes of Appeal, the proposed amendment(s) a) ☐ will not be entered or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:


Claim(s) allowed: _____.

Claim(s) objected to: 11,13-15,17-19,22 and 24-26.

Claim(s) rejected: 1-3,7,8,10,11,13-15,17-24 and 26.

Claim(s) withdrawn from consideration: _____.

8. ☐ The drawing correction filed on _____ is a) ☐ approved or b) ☐ disapproved by the Examiner.
9. ☐ Note the attached Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____.
10. ☒ Other: See Continuation Sheet



John Ruggles
Examiner
Art Unit 1756

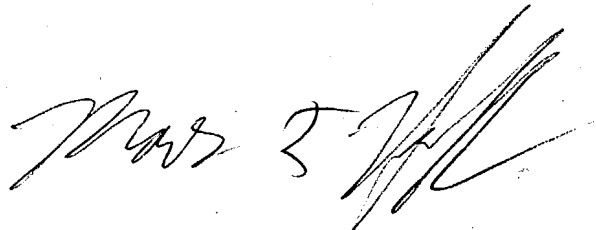
Continuation of 2. NOTE: (A) In the 12-15-03 supplemental amendment: (1) currently amended claim 11 not only shows attempts to address the grounds of objection and formal rejection presented in the Office action of 9-11-03, but also now repeats the last step of forming and patterning a photoresist layer over the IMD layer (this now seems to be reciting two separate consecutive photoresist layers not previously presented in earlier entered versions of claim 11 as of 8-1-03, thus requiring further consideration and raising the issue of possible new matter - Applicants must point out where the original specification would support two separate photoresist layers over the IMD layer); (2) currently amended claims 11 and 18 present changes that are not properly marked relative to the immediate prior entered version of 8-1-03 (e.g., Applicants are reminded that all deletions must be indicated by strikethrough or double brackets and that all additions must be indicated by underlining, etc.); (3) previously presented claim 15 remains limited in view of the original specification under the same interpretation set forth in the Office action of 9-11-03; and (4) while the current attempt to cancel previously presented claims 25-26 would overcome the previous objection to these claims in the Office action of 9-11-03 and amendments are presented to overcome specification objections not previously addressed during prosecution, this 12-15-03 amendment will not be entered for the other reasons set forth above. This means that claims 25-26 must remain in the former objection status and that the specification objections must also remain as presented in the Office action of 9-11-03.

(B) In the 2-11-04 second supplemental amendment: (1) the changes introduced to the specification in the presented replacement for paragraph 0036 attempts to insert new matter by now specifying for the first time that either or both the first and second ARC layers 25 and 26 may be selected from the group consisting of silicon oxynitride and titanium nitride (while applicants state on page 9 of this amendment that support for this change is found in the current version of claim 15 presented on 8-1-03, claim 15 has already been interpreted as limited by the original specification as stated for the record in the Office action of 9-11-03 and ARC layers 25 and 26 are not recited in claim 15 - Applicants must specifically point out where the original specification supports that the first ARC layer could be titanium nitride); (2) currently amended claim 11 not only shows attempts to address the grounds of objection and formal rejection presented in the Office action of 9-11-03, but also now repeats the last step of forming and patterning a photoresist layer over the IMD layer (this now seems to be reciting two separate consecutive photoresist layers not previously presented in earlier entered versions of claim 11 as of 8-1-03, thus requiring further consideration and raising the issue of possible new matter - Applicants must point out where the original specification would support two separate photoresist layers over the IMD layer); (3) the status of amended claims 11 and 18 should have been --currently amended-- rather than "previously presented", because changes have been made when compared to the immediate prior entered version of 8-1-03; (4) currently amended claims 11 and 18 also present changes that are not properly marked relative to the immediate prior entered version of 8-1-03 (e.g., Applicants are reminded that all deletions must be indicated by strikethrough or double brackets and that all additions must be indicated by underlining, etc.); (5) previously presented claim 15 remains limited in view of the original specification under the same interpretation set forth in the Office action of 9-11-03; and (6) while the current attempt to cancel previously presented claims 25-26 would overcome the previous objection to these claims in the Office action of 9-11-03, this 2-11-04 amendment will not be entered for the other reasons set forth above. This means that claims 25-26 must remain in the former objection status and that the specification objections must also remain as presented in the Office action of 9-11-03.

Continuation of 5. does NOT place the application in condition for allowance because: the proposed supplemental amendment of 12-15-03 and second supplemental amendment of 2-11-04 were not entered as noted above and applicants' remarks beginning on page 13 of the response filed 12-15-03 and those beginning on page 9 of the response filed 2-11-04 have not been deemed persuasive. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the teachings of Lin with those of Yu and Filipiak because all these references relate to the same art of semiconductor device manufacture for the purpose of reducing undesirable reflectance by using one or more ARC layer(s) to avoid reflective notching of an overlying photoresist layer during patterning. The combined process includes applying at least one thin conformal ARC layer to the sidewalls of holes or openings without filling the holes or openings before patterning an overlying photoresist layer to avoid reflective notching of the photoresist. Therefore, this combination of teachings provides a solution to the same problem of the instant claims, and in a similar manner.

Continuation of 10. Other: The period for reply to this Office action is the same as that given in the separate Notification of Non-Compliance With 37 CFR 1.192(c) (in response to the defective appeal brief filed on 11 February 2004). A joint response to these two Office actions is expected.


John Ruggles
Examiner
Art Unit 1756



MARK F. HUFF
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700